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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of: CULBERT	Attorney Docket No.: APL1P211/P2656
Application No.: 09/816,290	Examiner: CZEKAJ, DAVID J
Filed: March 21, 2001	Group: 2621
Title: TRACK FOR IMPROVED VIDEO COMPRESSION	Confirmation No.: 6108

CERTIFICATE OF MAILING

I hereby certify that this correspondence is being deposited with the U.S. Postal Service with sufficient postage as first-class mail on November 13, 2006 in an envelope addressed to: Mail Stop Appeal Brief-Patents, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

Signed: Sue Funchess
Sue Funchess

APPEAL BRIEF TRANSMITTAL
(37 CFR 192)

Mail Stop Appeal Brief-Patents
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This brief is in furtherance of the Notice of Appeal filed in this case on September 1, 2006.

This application is on behalf of

☐ Small Entity ☒ Large Entity

Pursuant to 37 CFR 1.17(f), the fee for filing the Appeal Brief is:

☐ $250.00 (Small Entity) ☒ $500.00 (Large Entity)

☐ Applicant(s) hereby petition for a _____ extension(s) of time to under 37 CFR 1.136.

If an additional extension of time is required, please consider this a petition therefor.

☐ An extension for months has already been secured and the fee paid therefor of $ is deducted from the total fee due for the total months of extension now requested.

☒ Applicant(s) believe that no (additional) Extension of Time is required; however, if it is determined that such an extension is required, Applicant(s) hereby petition that such an

extension be granted and authorize the Commissioner to charge the required fees for an Extension of Time under 37 CFR 1.136 to Deposit Account No. 500388.

Total Fee Due:	
Appeal Brief fee	$500.00
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☒ Enclosed is Check No. 32070 in the amount of $500.00.

☒ Charge any additional fees or credit any overpayment to Deposit Account No. 50-0388, (Order No. APL1P211).

Respectfully submitted,

BEYER WEAVER & THOMAS, LLP

Michael Lee
Registration No. 31,846

P.O. Box 70250
Oakland, CA 94612-0250
(650) 961-8300

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

EX PARTE CULBERT *et al.*

Application for Patent

Filed: March 21, 2001

Serial No. 09/816,290

FOR:
TRACK FOR IMPROVED VIDEO COMPRESSION

APPEAL BRIEF

CERTIFICATE OF MAILING

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Signed: Sue Funchess
Sue Funchess

TABLE OF CONTENTS

(1) REAL PARTY IN INTEREST

Lam Research Corporation.

Address: 4650 Cushing Parkway, Fremont, CA 94538-6470

(2) RELATED APPEALS AND INTERFERENCES

None

(3) STATUS OF CLAIMS

Claims 1-20 are pending. Claims 1-20 are rejected. Claims 21-23 have been canceled. The rejection of each of claims 1-20 is appealed.

(4) STATUS OF AMENDMENTS

No amendment has been filed subsequent to the final rejection mailed on July 14, 2006.

(5) SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1

The present invention is directed to computer readable medium containing program instructions for compressing video data with an edit track comprising computer readable code for compressing the video data, wherein the computer readable code for compressing comprises computer readable code for accessing the edit track to use data in the edit track during the compressing, wherein the edit track records editing steps made by a user using video editing software and wherein the recorded editing steps made by a user using video editing software in the edit track are used for compressing the video data.

The computer readable medium with program instructions may be seen as fixed disk 926 or removable disk 914 of FIG. 1, described on page 4, line 26, to page 5, line 2,

of the application. An edit track records editing steps made by a user using video editing software. This is described on page 6, lines 5-16, of the application. The computer readable code is able to access an edit track and use data in the edit track for compressing the video data. This is disclosed on page 6, lines 17-22, of the application.

Independent claim 11

The present invention is directed to a method of compressing video data with an edit track comprising compressing the video data, wherein the compressing comprises accessing the edit track to use data in the edit track during the compressing, wherein the edit track records editing steps made by a user using video editing software and wherein the recorded editing steps made by a user using video editing software in the edit track are used for compressing the video data.

The compressing the accessing an edit track to use data in the edit track for compressing is disclosed on page 6, lines 17-22, of the application. The edit track recording editing steps made by a user using video editing software in the edit track is disclosed on page 6, lines 5-16, of the application.

Independent claim 17

The present invention is directed to a system for compressing video data with an edited video track, an audio track, and an edit track, comprising an edit track reader for accessing data within the edit track and generating instructions based on the data within the edit track and a video compressor, which receives instruction from the edit track reader and receives the edited video track and audio track, and which compresses the edited video according to the instructions from the edit track reader, wherein the edit track records editing steps made by a user using video editing software and wherein the recorded editing steps made by a user using video editing software in the edit track are used for compressing the video data.

The edit track reader 1104 (FIG. 11) for accessing data within the edit track and generating instructions based within the edit track is disclosed on page 13, lines 19-27, of the application. The video compressor 1108, which receives instructions from the edit track reader and receives the edited video track and audio track and which compresses the edited video according to instructions from the edit track reader is disclosed on page 13, lines 19-27, of the application. The edit track recording editing steps made by a user

using video editing software in the edit track is disclosed on page 6, lines 5-16, of the application.

(6) GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

Claims 1-4, 11-14, and 17-20 were rejected under 35 U.S.C. 102(e) as being anticipated by Tahara et al. (US 6,671,323, hereinafter "Tahara"). Claims 5-10 and 15-16 were rejected under 35 U.S.C. 103(a) as being unpatentable over Tahara in view of Wang et al. (US 5,802,361, hereinafter "Wang"). These two grounds of rejection are for review in this appeal. The rejected claims do not stand or fall together and will be argued separately.

(7) ARGUMENT

Rejection of claims 1-4, 11-14, and 17-20 were rejected under 35 U.S.C. 102(e)

Claims 1-4, 11-14, and 17-20 were rejected under 35 U.S.C. 102(e) as being anticipated by Tahara et al. (US 6,671,323, hereinafter "Tahara"). The Appellants' explanation of the differences between the above-cited reference and the claimed invention will first be discussed for independent claims 1, 11, and 17, and then for the dependent claims, each of which recites an additional limitation not found or suggested in the cited references.

Tahara does not teach or disclose using the user recorded editing steps for compressing the video, as recited in claims 1, 11, and 17. In the present application, claim 1 specifically provides the limitations that "the editing track records the editing steps made by a user video editing software" and "the recorded editing steps made by a user using video editing software in the edit track are used for compressing the video data." In other words, the actual steps the user takes during the editing of the video data, as recorded in the edit track, are used in the compression process and used to help choosing the appropriate compression algorithm. Claim 1 specifically requires the limitation that the editing steps made by a user is recorded in the edit track are used in the compressing of the video data. The same argument may be applied to independent

claims 11 and 17. In contrast, the using of the recorded editing steps made by user during the compression of the video data is not taught in Tahara.

Argument to Examiner's Claim Rejection on pages 3-4 of the Final Rejection

The Examiner stated that FIGS. 1 and 4, col. 11, lines 44-48, col. 22, lines 19-34 of Tahara teaches accessing the edit track to use data in the edit track during compressing, where the edit track is the MPEG_ES_editing_information and the compressing is the encoding. Col. 2, lines 2-11, of Tahara states that the ancillary data of FIG. 1 is not encoded but instead is lost so that for the device of FIG. 1 the decoded video data does not contain information on the ancillary data. Therefore, the device of FIG. 1 of Tahara does not use the ancillary data for encoding, but instead loses such data. Regarding FIG. 4 of Tahara, although FIG. 4 illustrates an MPEG encoder 142 and an MPEG decoder 144, the Examiner failed to point out anything in Tahara that teaches or discloses that the MPEG encoder of FIG. 4 of Tahara uses MPEG_ES_editing_information to compress the video during MPEG encoding.

Col. 11, lines 44-48, of Tahara, cited by the Examiner states that coding circuit 125 coverts the information supplied from the controller 104 as MPEG_ES_editing_information into a variable length code and inserts them into the encoded stream. This does not teach using the MPEG_ES_editing information for encoding, but only inserting after the encoding is performed. Therefore, this does not teach using the edit track for compressing.

In addition, col. 22, lines 19-34, of Tahara, cited by the Examiner teaches that decoding circuit 402 extracts information described as MPEG_ES_editing_information. This relates to decoding (decompression), and therefore does not teach using MPEG_ES_editing_information for encoding (compression). Therefore, the Examiner failed to point out anything in Tahara that teaches using the edit track for comprising the video data.

In addition, Col. 3, lines 59-65, of Tahara explains that the device of Tahara has an encoder that takes ancillary data and inserts the ancillary data into the already encoded

data stream. The decoder then extracts the ancillary data and then decodes the encoded data and merges the decoded data with the ancillary data. This is different than using edit data for encoding.

Claim 17 further recites the system for compressing video data further comprises an edit track reader for accessing data within the edit track and generating instructions based on the data within the edit track and that the video compressor receives the instructions from the edit track reader and compresses the edited video according to the instructions from the edit track reader. These additional features are not disclosed in Tahara. The Examiner cited col. 22, lines 19-34, and col. 23, lines 31-34, of Tahara as teaching an edit track reader for accessing data within the edit track and generating instructions based on the data within the track. Col. 22, lines 19-34, and col. 23, lines 31-34, of Tahara discuss how decoding circuit 402 extracts information for controller 405. Col 21, lines 63 to 67, of Tahara states that decoding circuit 402 and controller 405 are shown in FIG. 31 that illustrate MPEG decoders. Claim 17 recites that the instructions from the edit track reader are used to compress video (encode) not decode. Therefore, Tahara does not teach or disclose an edit track reader for accessing data in the edit tract to generate instructions which are used by a video compressor to compress the edited video, as recited in claim 17.

Regarding the Examiner's Response to Arguments in the Final Rejection for Independent Claims

In the Response to Arguments of the Final Rejection the Examiner stated that column 11, lines 30-35 of Tahara disclose that the V-phase and H-phase variables make up part of the MPEG_ES_editing information, and column 15, lines 27-37 of Tahara disclose that the V-phase and H-phase indicate the first line to be encoded or compressed in a frame. Although V-phase and H-phase are part of the MPEG_ES_editing information, and although V-phase and H-phase are used during the video compression process, the two variables – V-phase and H-phase – are not recorded editing steps made by the user, as recited in claims 1, 11, and 17. Instead, of being recorded editing steps made by the user the Examiner stated that the V-phase and H-phase indicate the first line to be encoded or compressed in a frame. The using of V-phase and H-phase by Tahara during the vide compression is not equivalent to the using editing steps made by the user as recorded in the editing track by the present application.

In the present application, the term "editing steps" specifically refers to steps made by a user during the video editing process and information obtained from the video editing process while a user is editing the video data, such as creating some form of special effect using a video editing software, as recited in claims 1, 11, and 17. For example, the editing track may contain editing steps such as text added to video, color correction performed, video overlay, etc. Therefore, conceptually, "editing steps" in the present application is not the same as V-phase or H-phase, and variables such as V-phase and H-phase are not editing steps in the editing track. Rather, editing track in the present application is more similar to "Ancillary_data" disclosed in Tahara, although the two are not exactly the same.

In Tahara, MPEG_ES_editing information contains many variables, including V-phase, H-phase, Time_code1, Time_code2, Ancillary_data, Line_number, DTS_counter, etc., as described in Tahara, column 11, lines 28-37. Although Ancillary_data is contained in MPEG_ES_editing, nowhere in Tahara discloses actually using Ancillary_data during the compressing of the video data. Instead, the ancillary data is extracted from the video data during the compression process, inserted into the encoded streams as Ancillary_data, and sent to the destination along with the rest of the encoded video data. During the decompression process, the ancillary data is again extracted from the encoded streams and added back to the decoded video data, as discussed in Tahara, column 3, lines 51-65. Thus, ancillary data merely are sent along with the rest of the video data, but are not used during the compression and decompression process of the video data. Therefore, in Tahara, the editing information (edit track) – ancillary data – are not used during the compressing of the video data.

In contrast, the present application uses the editing steps made by the user as recorded in the editing track during the compression process of the video data in order to shorten the time required to compress those video data that contain edited special effects, as recited in the claims. For example, information contained in the editing track, such as recorded user editing steps, may be used to form predictive motion vectors and difference vectors, because the edited regions may result in greater errors, as discussed on page 8, lines 3-19, of the application. Similarly, information contained in the editing track may be used to determine whether to increase to decrease pixel resolution for blended video

frames, as discussed on, page 10, lines 12-26, of the application. Other examples have been given in the present application. Unlike Tahara, information contained in the editing track is not merely sent long with the rest of the audio and video data. Instead, the editing track is an integral part of the compression process.

Dependent Claims

The dependent claims 2-4, 12-13, and 18-20 are patentable for at least the same reasons as the independent claims, upon which they ultimately depend. These dependent claims recite additional limitations that further distinguish the claims from the cited reference.

For example, claims 2 and 12 recite that the computer readable code uses information in the edit track to determine the bit resolution of quantization for a region defined within the edit track for compressing the video data. The Examiner cited col. 13, lines 52-67, of Tahara as teaching horizontal_size_value, vertical_size_value, aspect_ratio_information, and bit_rate_value is read from the edit track. The Examiner failed to show which of this data is from an edit step made by a user using video editing software and that such edit steps are used for compressing video data.

In addition, Claims 3 and 13 further recite that the computer code for compressing further comprises using computer readable code for using the motion information in the edit track to create a motion vector. Claims 4 and 14 further recite that the computer readable code for compressing the video data further comprises computer readable code for using the edit track to create a difference vector. The Examiner states that motion information is described in col. 19, lines 4-26, of Tahara, but did not point out anything that teaches that the code for compressing uses that motion information to create a motion vector or a difference vector. Instead, col. 19, lines 4-12, states that f_code[0][1], f_code[1][0], and f_code[1][1] provide ranges for searching for motion vectors. Col. 19, lines 23-25, states that concealment_motion_vectors provides data that indicates that intramacroblocks are provided with motion vectors for hiding transmission errors.

In the **Response to Arguments**, the Examiner stated that Tahara in col. 19, lines 1-12 discloses the use of f_codes for defining a search range, or window for searching motion vectors and that by searching for motion vectors, Tahara is determining/creating a motion vector for the current frame. The Examiner has not shown how searching a motion vector is the same as creating a motion vector, as recited in claims 3 and 13. Nothing teaches using the edit track to create a motion vector or a difference vector, as recited in Claims 3, 4, 13, and 14.

Rejection of claims 5-10 and 15-16 under 35 U.S.C. 103(a) as being unpatentable over Tahara in view of Want et al. (US 5,802,361, hereinafter "Wang").

The Examiner rejected claims 5-10 and 15-16 under 35 U.S.C. 103(a) as being unpatentable over Tahara in view of Wang et al. (US 5,802,361, hereinafter "Wang").

Because Tahara does not teach or disclose using editing steps in the editing track for compressing and decompressing video data, it is not obvious to combine Tahara and Wang to obtain all the limitations cited in claims 5-10 and 15-16, since Wang does not remedy the deficiency of Tahara discussed above regarding claims 1, 11, and 17.

In addition, claims 5 and 15 recite that the compressing of the video data further comprises using information in the edit track to determine a number of I-frames that will be used for compression. The phrase "will be used" for compression denotes a future use, because as discussed above regarding claim 1, the editing steps are used for compression. The Examiner on page 5 of the Final Rejection states that Wang discloses "using information in the edit track to determine a number of I-frames used for compression." Here the verb "used" is past tense. This is because the information in the edit track of Wang is not used for compressing video, but instead for searching video, possibly after it has been compressed. Therefore, Wang does not remedy the deficiency of Tahara regarding the additional limitations of claims 5 and 15 that further recite using information in the edit track to determine a number of I-frames that will be used for compression.

Claims 6, 7, and 16 further recite creating a video track of edited video data and computer readable code for creating at least one edit object in the edit track, wherein the edit object defines a region that has been edited and a type of edit. The Examiner stated that the creating a track of edited video data is shown in FIG. 5h of Wang and that creating at least one object in the edit track is disclosed in Wang, col. 16, lines 53-65, where the object is a rectangle. At col. 14, lines 34-35, Wang states that FIGS. 5 through 9 show an embodiment of a graphic user interface for constructing a search inquiry. Therefore FIG. 5h of Wang and FIG. 5i and 5b, discussed in col. 16, lines 53-65, of Wang, cited by the Examiner do not teach a video editing tool or an edit track, but a tool for generating a search request. In addition, col. 16, lines 32-46, of Wang describes FIG. 5h as a way of adding or modifying a bookmark to indicate locations in a "video sequence to be edited." The bookmark does not edit the video sequence but merely marks locations "to be edited."

In the **Response to Arguments** the Examiner stated Wang in col. 16, lines 50-65 discloses an example of a created edit object that creates a rectangle to define an area for an edit to occur. Nothing in Tahara or Wang discloses or suggests storing such an edit object in an edit track and then the edit object for compressing video data. For at least these reasons claims 6, 7, and 16 are not made obvious by the cited references.

Conclusion

Appellants have pointed out that the cited references contain insufficient teachings to disclose or to render the claims *prima facie* obvious.

In view of the foregoing, it is respectfully submitted that none of the pending claims are rendered unpatentable by the Tahara and Wang references. Accordingly, the pending rejections of all of the claims under 35 U.S.C. § 102 and § 103 should be reversed.

Respectfully submitted,
BEYER WEAVER & THOMAS, LLP

Michael Lee
Reg. No. 31,846

P.O. Box 70250
Oakland, CA 94607-0250
(510) 663-1100

(8) CLAIMS APPENDIX

APPENDIX
PENDING CLAIMS

1. (Previously Presented) A computer readable medium containing program instructions for compressing video data with an edit track comprising computer readable code for compressing the video data, wherein the computer readable code for compressing comprises computer readable code for accessing the edit track to use data in the edit track during the compressing, wherein the edit track records editing steps made by a user using video editing software and wherein the recorded editing steps made by a user using video editing software in the edit track are used for compressing the video data.

2. (Previously Presented) The computer readable medium, as recited in claim 1, wherein the computer readable code for compressing of the video data further comprises computer readable code for using information in the edit track to determine the bit resolution of quantization for a region defined within the edit track for compressing the video data.

3. (Original) The computer readable medium, as recited in claim 2, wherein the computer readable code for compressing of the video data further comprises computer readable code for using motion information in the edit track to create a motion vector.

4. (Original) The computer readable medium, as recited in claim 3, wherein the computer readable code for compressing of the video data further comprises computer readable code for using information in the edit track to create a difference vector.

5. (Original) The computer readable medium, as recited in claim 4, wherein the computer readable code for compressing of the video data further comprises computer readable code for using information in the edit track to determine a number of I-frames that will be used for compression.

6. (Previously Presented) The computer readable medium, as recited in claim 5, further comprising computer readable code for editing video data, comprising:

computer readable code to allow a user to edit video data to provide video effects;

computer readable code for creating a video track of edited video data; and

computer readable code for creating at least one edit object in the edit track, wherein the edit object defines a region that has been edited and a type of edit and where the edited video data records editing steps by the user.

7. (Previously Presented) The computer readable medium, as recited in claim 1, further comprising computer readable code for editing video data, comprising:

computer readable code to allow a user to edit video data to provide video effects;

computer readable code for creating a video track of edited video data; and

computer readable code for creating at least one edit object in the edit track, wherein the edit object defines a region that has been edited and a type of edit and where the edited video data records editing steps by the user.

8. (Previously Presented) The computer readable medium, as recited in claim 1, wherein the computer readable code for compressing of the video data further comprises

computer readable code for using text information in the edit track to increase bit resolution of quantization of a pixel block in the compressed video data to improve resolution of text provided by the text information.

9. (Original) The computer readable medium, as recited in claim 1, wherein the computer readable code for compressing of the video data further comprises computer readable code for using blend information in the edit track to decrease bit resolution of quantization of a pixel block.

10. (Original) The computer readable medium, as recited in claim 1, wherein the edit track specifies a region within which a video edit has occurred and the type of edit that occurred within the region.

11. (Previously Presented) A method of compressing video data with an edit track comprising compressing the video data, wherein the compressing comprises accessing the edit track to use data in the edit track during the compressing, wherein the edit track records editing steps made by a user using video editing software and wherein the recorded editing steps made by a user using video editing software in the edit track are used for compressing the video data.

12. (Previously Presented) The method, as recited in claim 11, wherein the compressing of the video data further comprises using information in the edit track to determine the bit resolution of quantization for a region defined within the edit track for compressing the video data.

13. (Original) The method, as recited in claim 12, wherein the compressing of the video data further comprises using motion information in the edit track to create a motion vector.

14. (Original) The method, as recited in claim 13, wherein the compressing of the video data further comprises using information in the edit track to create a difference vector.

15. (Original) The method, as recited in claim 14, wherein the compressing of the video data further comprises using information in the edit track to determine a number of I-frames that will be used for compression.

16. (Original) The method, as recited in claim 15, further comprising the step of editing video data, comprising:

creating a video track of edited video data; and

creating at least one edit object in the edit track, wherein the edit object defines a region that has been edited and a type of edit.

17. (Previously Presented) A system for compressing video data with an edited video track, an audio track, and an edit track, comprising:

an edit track reader for accessing data within the edit track and generating instructions based on the data within the edit track; and

a video compressor, which receives instruction from the edit track reader and receives the edited video track and audio track, and which compresses the edited video

according to the instructions from the edit track reader, wherein the edit track records editing steps made by a user using video editing software and wherein the recorded editing steps made by a user using video editing software in the edit track are used for compressing the video data.

18. (Original) The system, as recited in claim 11, wherein the video compressor is an MPEG video compressor, which compresses the video data into an MPEG format.

19. (Original) The system, as recited in claim 11, wherein the video compressor is an MPEG-2 video compressor, which compresses the video data into an MPEG-2 format.

20. (Original) The system, as recited in claim 13, wherein the video compressor is able to provide video compression with a single encoding.

21-23 (Canceled)

(9) EVIDENCE APPENDIX

None.

(10) RELATED PROCEEDINGS APPENDIX

None.